REMARKS

The Rejection of Claims 1-3, 9 and 11 for Anticipation by Legrand

The rejection of claims 1, 2, 3 and 9 for anticipation by Legrand is respectfully traversed.

Claims 1-3 and 9 are not anticipated by Legrand for several reasons. Legrand does not have a non-elastic bladder as required by claim 1 of the present invention. On the contrary, Legrand repeatedly refers to the bladder therein as "elastic," with all of the claims in Legrand in fact specifically limited to a bellows "constituted of an elastic material." See Legrand, at col. 1, lines 19 and 44-45; claim 1 (emphasis added). Secondly, Legrand does not have a shut-off valve "responsive to the volume of the working fluid within said accumulator falling to a determined low value," as is required for claims 1, 2, 3 and 9. Applicant has carefully reviewed the Legrand reference cited by the examiner. Valve 37 in Legrand does not correspond to the shut-off valve of the present invention because Legrand valve 37 is neither disclosed nor inherently designed to shut off in response to the working fluid volume falling to a determined low value. Instead, Legrand discloses the purpose of valve 37 therein as "obviat[ing] the need to drain the bellows when the filtering element requires to be cleaned or replaced." Legrand, col. 4, lines 59-61. No mechanism is disclosed in Legrand to cause valve 37 to inherently close "responsive to the volume of the working fluid within said accumulator falling to a determined low value." Note that valve 37 of Legrand is spring-biased toward its closed position. Legrand, column 4, lines 56-58. The Examiner's reliance on inherency for arguing that the valve 37 in Legrand

corresponds to the shut-off valve of the present invention is misplaced. No technical basis is provided supporting a conclusion that valve 37 in Legrand necessarily closes responsive to the volume of the working fluid within said accumulator falling to a determined low value. "In relying upon the theory of inherency, the examiner must provide a basis in fact and/or technical reasoning to reasonably support the determination that the allegedly inherent characteristic necessarily flows from the teachings of the applied prior art." *Ex parte Levy,* 17 U.S.P.Q.2d 1461, 1464 (Bd. Pat. App. & Inter. 1990) (emphasis in original), *also cited in* MPEP 2112.

Claim 11 is not anticipated by Legrand for the same reasons as claims 1-3 and 9 above. In addition, Legrand does not disclose the "coil spring attached to said second fixture and surrounding said shut-off valve," as additionally recited in claim 11. The examiner cites no structure or reference disclosed in Legrand as corresponding to this element in claim 11.

Newly presented claim 17 defines subject matter further removed from Legrand in that Legrand has valve 37 located within the bellows.

The Rejection of Claim 14 for Anticipation by Miller

The rejection of claim 14 for anticipation by Miller is respectfully traversed. Claim 14 is not anticipated by Miller because the device disclosed in Miller is not a hydraulic accumulator, as is required for claim 14. On the contrary, the Miller device is a suction stabilizer for pumps, with open inlet and outlet ports 23 and 24 for the passage of fluid through the device. The Miller device is not a power storage device.

Newly presented claims 15, 16 and 18, dependent upon claim 14 either directly or indirectly, further distinguish the present invention from Miller in that Miller has no shut-off valve as required by claims 15 and 16 and the bladder 20 is elastic rather than non-elastic as required by new claim 18.

The Rejection of Claims 4 and 5 for Obviousness

The rejection for obviousness over Legrand in view of Weber is respectfully traversed. There is no suggestion or motivation to combine the Legrand and Weber references. In particular, the proposed modification to Legrand of reversing the bellows to allow gas to fill the bellows would render the Legrand system unsatisfactory for its intended purpose. Indeed, after careful review of the Legrand system, it is clear that if the Legrand system were so reversed, the system would not serve its intended purposes.

The Legrand device is a low pressure (under 6 bars) hydraulic reservoir that relies on the principles of gravity and the greater density of fluid relative to gas for operation. Switching the location of the gas and fluid in Legrand would cause several problems for the modified Legrand system. For example, the liquid and gas could not be directly switched (i.e. switching the liquid from inside the bellows to the open chamber on top of the bellows) because the Legrand system would become inoperable: the bellows would not rise or fall because it would always be under the weight of the liquid, the float/venting system 21 in Legrand would not work because any gas in the liquid would rise to the top of the tank and be separated from the bellows venting system, the fluid and gas would be separated from their corresponding ports in the tank, etc. Therefore,

to solve these problems, switching the fluid and gas positions in Legrand would at least also require (1) turning the positions of the bellows and open chamber upside down to allow the liquid open chamber to be on the bottom and gas-filled bellows on top, and (2) integrating the bellows and chamber with their new respective tank fixtures for communication with gas and liquid sources exterior to the tank. However, even with those changes, the modified Legrand system would not work for its intended purpose. For example, the bellows degassing device of the Legrand system, designed in Legrand to vent gas present on top of the liquid inside the bellows to the gas chamber exterior to the bellows, would no longer work. In particular, the float 21a, which triggers the venting of the gas from the liquid chamber, would be isolated from the liquid/gas surface by housing 21, and thus could not perform its function to trigger gas venting. Similarly, lever 39 would no longer operate with safety valve 42 to prevent overfilling of the tank, as the triggering system is based on overfilling causing extension of bellows 13 beyond a critical point, causing washer 38 to contact a terminal fork of lever 39. In the modified system, overfilling would cause contraction instead of extension of the bellows and thus would not trigger safety valve 42 to prevent overfilling of the tank. In addition, the functionality of rollers 22 in Legrand would be compromised by operating in liquid instead of gas in the modified system. Finally, these remaining problems with the modified Legrand system could not be corrected through changing the orientation of the rigidly interconnected fixtures on top of bellows 13 (i.e. the degassing housing 21, washer 38, rollers 22, etc) to project internally into the bellows instead of toward the open chamber, because such a modification would cause an incorrectable interference between the guiding rollers 22 and the walls of bellows 13. Thus the degassing and safety valve mechanisms of the Legrand system could not work if modified to reverse gas and liquid positions as in Weber, and would require entirely different mechanisms

performing such functions with different principles of operation.

Because the Legrand system could not perform its intended purpose if modified to reverse the gas and liquid positions in light of Weber, there is no suggestion or motivation to combine the Legrand and Weber references, and thus claims 4 and 5 cannot be obvious in light of those references. *See In re Gordon*, 733 F.2d 900 (Fed.Cir. 1984) (combination is not obvious if the prior art device as modified would be inoperable for its intended purpose, as there is thus no reasonable suggestion or motivation to make the proposed modification), *also cited in* MPEP 2143.01.

The Rejection of Claims 6, 7, 8 and 13 for Obviousness

The rejection of claims 6, 7, 8 and 13 for obviousness over Legrand in view of Pietrykowski is also traversed. A combination of the Legrand and Pietrykowski references would not contain all of the elements of claims 6, 7, 8 and 13. More specifically, neither Pietrykowski nor Legrand (as discussed for claims 1, 2, 3 and 9 above) disclose a shut-off valve "responsive to the volume of the working fluid within said accumulator falling to a determined low value," as is required for claims 6, 7, 8 and 13. Therefore, the subject matter of claims 6, 7, 8 and 13 could not have been obvious from Legrand in view of Pietrykowski. *See* MPEP 2142 (for a prima facie case of obviousness, the prior art references when combined must teach or suggest all of the limitations in the claim).

Applicant respectfully disagrees with the examiner's statement, as to claim 7, that the chosen thickness of the metal foil is an "obvious choice of mechanical expedients ... to modify

the bellows in Legrand to be of any thickness desired using routine experimentation to arrive at optimum values." Contrary to the examiner's suggestion, the range of thickness of the metal foil in claim 7 is based on different mechanical considerations and expedients than those which would be obvious to consider under either the Legrand or Pietrykowski references. In particular, the bellows material design choice suggested in the Pietrykowski prior art is based on cost of formation (e.g. formable by injection molding) and ability to handle caustic or other adverse environments. While, Legrand discusses elasticity and mechanical strength of the bellows material, in contrast, the range of thickness recited by claim 7 was arrived at as a tradeoff of factors of porosity and crack-resistance that are not suggested, discussed or obvious from the Legrand or Pietrykowski references, and thus the claimed thickness range would not have been an obvious choice of mechanical expedients for one skilled in the art in modifying Legrand or Pietrykowski.

The Rejection of Claim 10 for Obviousness

The rejection of claim 10 for obviousness in view of the combination of Legrand, Weber, and Miller is traversed for the same reasons set forth for claims 4 and 5 above, in that there is no suggestion or motivation to combine Legrand and Weber because the Legrand system as so modified would no longer be satisfactory for its intended purpose.

Furthermore, there is also no suggestion or motivation to combine vent 27 from Miller with Legrand, as modified by Weber, because a vent formed in the tank (as in Miller) could not serve the necessary degassing function in the Legrand system. operation of the gauges of

Legrand is dependent on there being a complete absence of any air in the liquid chamber. See Legrand, col. 4, lines 11-16, 31-36; col. 2, lines 39-43. A Miller degassing vent formed in the Legrand tank would not meet this need in Legrand. Legrand achieves a complete absence of air in the liquid chamber (at low pressure) by placing the degasser at the bellows end that creates the border between the gas and liquid chambers in the tank, and using the weight of the degassing device and bellows top to displace the gas that accumulates in the liquid chamber. Note that this border between the gas and liquid chambers rises and falls in use. A vent formed in the tank wall necessarily cannot always be at the border between the gas and liquid chambers in the tank. Vent 27 works in Miller on the principle of operation that gas will separate out from the liquid and collect in the highest portion of the tank accessible to it, and thus can be released, due to pressure, through a vent formed in the tank at that highest point in the liquid chamber. With the Legrand device modified as in Weber (see discussion for claims 4 and 5 above), there is no way in which a vent like Miller's or Legrand's could be formed in the tank in a way which would ensure a complete absence of air in the liquid chamber (e.g. without air collecting in spaces between the bellows and tank walls, or above the vent, etc), and without mechanically interfering with or changing the bellows structure.

Because a combination of the Miller, Legrand and Weber prior art would not be operable for its intended purpose, there is no suggestion or motivation to combine the Legrand, Miller and Weber references, and thus the subject matter of claim 10 could not have been obvious from a reading of those references. *See In re Gordon*, 733 F.2d 900 (Fed.Cir. 1984) (combination is not obvious if the prior art device as modified would be inoperable for its intended purpose, as there is thus no reasonable suggestion or motivation to make the proposed modification), *also cited in*

MPEP 2143.01.

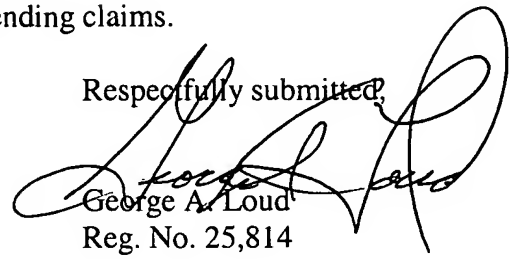
The Rejection of Claim 12 for Obviousness

The rejection of claim 12 for obviousness over Legrand in view of Thompson is traversed for the reason that a combination of the Legrand and Thompson references would not contain all of the elements of claim 12 because neither Thompson nor Legrand (as discussed for claims 1, 2, 3 and 9 above) disclose a shut-off valve "responsive to the volume of the working fluid within said accumulator falling to a determined low value," as is required for claim 12. See MPEP 2142 (for a prima facie case of obviousness, the prior art references when combined must teach or suggest all of the limitations in the claim).

Furthermore, neither Legrand nor Thompson disclose a spring internal to the bladder and attached to opposing ends of the bladder, which is required for claim 12. Metal rings 62 in Thompson are described neither as a spring nor as attached to opposing ends of the bladder therein. Instead, metal rings 62 are described in Thompson as reinforcing elements which "serve to constrain buckling induced movements of the crest portions inwardly away from [the] tank shell sidewall" in the bellows, and thus have nothing to do with the structure or purpose of the internal spring of claim 12.

In conclusion, it is respectfully requested that the examiner reconsider the rejections of record with a view toward allowance of the pending claims.

Respectfully submitted,



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